

San Juan Island National Historical Park

by Graham S. N. Crawbuck, Mosaics Natural Resource Management Intern



Overview of Projects

The Island Marble Butterfly

The Island Marble Butterfly was believed to be extinct in 1908, until its rediscovery at San Juan Island National Historical Park in 1998. Currently, fewer than 100 individuals are believed to exist in the wild. Reasons for the butterfly's fragile status include habitat degradation, geographic isolation of the population, and the effect of storm surges and herbivory on host plants (NPS).



Brassica rapa: a butterfly host plant. Photo credit: USDA

Prairie Habitat

The prairie at San Juan Island National Historical Park is predominantly comprised of exotic grass species. Native grasses exist in scattered populations and no longer provide adequate habitat for other plants, such as endangered golden paintbrush. In 2016, the park is planning a sizeable prairie restoration project, which will include the reintroduction of many native grasses and forbs.



Endangered golden paintbrush, *Castilleja levisecta*. Photo credit: Thomas Kaye photographer/Oregon Department of Agriculture.

Native Plant Nursery

To provide plants for both the butterfly and prairie habitat restoration, I led the expansion of the park's native plant nursery in both physical size and diversity of species. In addition to collecting seeds, I created a comprehensive propagation guide to ensure continual availability of propagules.



Watering in the native plant nursery. Photo credit: Claire Crawbuck

Management Actions

The Island Marble Butterfly

A 10 year Conservation Agreement between the National Park Service and U.S. Fish and Wildlife Service stated that ongoing monitoring, restoration of habitat, and evaluation of population movement were the most valuable ways to protect this butterfly species. I participated in conservation by surveying adult populations, completing host plant transects, and propagating host and nectar producing plant species (Vernon).



Island Marble Butterfly larva. Photo credit: Gary Tarleton photographer/NPS

Prairie Habitat



The prairie landscape at San Juan Island National Historical Park. Photo credit: NPS

species throughout the prairie.

Native Plant Nursery:

Through collaborating with volunteers, I was able to expand the nursery to three times its original size, catalog the seed stores, begin planning for further nursery expansion, and create a list of species which are key to the ongoing projects at the park.



EarthCorps volunteers collecting seed from prairie grasses. Photo credit: Gary Tarleton photographer/NPS

Results

The Island Marble Butterfly

Due to surveying, the park service was able to discover a new patch of butterflies along the park's shoreline. Seed was collected from native host plants at this site and will be grown in the nursery during the next season. Additionally, through our efforts this year, 76 individual larvae successfully pupated and will be released as adults in the spring. (Shrum).



Field collection of an Island Marble Butterfly larva. Photo credit: Gary Tarleton/NPS

Prairie Habitat

After the golden paintbrush was fenced to prevent herbivory, all flowering plants were able to successfully go to seed; current storage of seed will provide next year with a new population of seedlings. Additionally, by working with conservation crews, the park was able to successfully harvest over 14 pounds of native grass seed, which will later be planted in rows at the nursery for further seed increase (Lawrence).



Working with Ranger Raena Parsons in the Island Marble Butterfly rearing lab. Photo credit: Gary Tarleton photographer/NPS

Native Plant Nursery

By creating a protocol which lays out propagation techniques, I documented an easy way for seasonal workers to continue work in the nursery. Many perennial forbs have been planted in nursery beds and will provide a steady source of seeds starting in the spring, while continual propagation of butterfly host plants will allow for captive rearing programs to begin again next year.



Rangers planting prairie grasses. Photo credit: Andrea Weiser, NPS



Healthy golden paintbrush flowers. Photo credit: Thomas Kaye photographer/Oregon Department of Agriculture.



Native grass seed collection. Photo credit: Claire Crawbuck

Partnerships and Volunteers

All of the work I did was made possible by help from EarthCorps, the Student Conservation Association, and the San Juan Island Conservation Corps. Moreover, partnerships with the San Juan County Land Bank, San Juan Preservation Trust, U.S. Fish and Wildlife Service, and Washington State University Master Gardeners provided valuable knowledge of propagation and conservation techniques.



The San Juan Conservation Crew collecting native plant seed in the prairie. Photo cred: Gary Tarleton/NPS

Future Actions

This fall, planting will begin in the nursery's field and raised beds. Next spring and summer, propagules from the nursery will be collected and outplanted in the prairie to help expand both butterfly and golden paintbrush habitat. Eleven acres of land will be seeded with native plants during the 2016 prairie restoration project, providing habitat for animals such as the Townsend's vole and streak horned lark.



Collecting larvae for captive rearing with Ranger Jenny Shrum. Photo credit: Gary Tarleton photographer/NPS

Acknowledgements and Sources

I would like to thank San Juan Island National Historical Park, Geological Society of America, San Juan Island Conservation Corps, EarthCorps, the Student Conservation Association, University of Washington, North Cascades National Park, U.S. Fish and Wildlife Service, Washington State University Master Gardeners, San Juan County Land Bank, San Juan Preservation Trust, and my entire family for the support they gave me throughout my internship.



Source Cited:

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